



Configuring Right-To-Use Licenses

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Finding Feature Information

Your software release may not support all the features documented in this module. For the latest caveats and feature information, see Bug Search Tool and the release notes for your platform and software release. To find information about the features documented in this module, and to see a list of the releases in which each feature is supported, see the feature information table at the end of this module.

Use Cisco Feature Navigator to find information about platform support and Cisco software image support. To access Cisco Feature Navigator, go to <http://www.cisco.com/go/cfn>. An account on Cisco.com is not required.

Related Topics

[Feature History and Information for Troubleshooting Software Configuration](#)

Restrictions for Configuring RTU Licenses

The following are the restrictions for configuring and using RTU licenses.

- AP count licenses can be ordered and pre-activated on your switch.
- Imaged based licenses can be upgraded. AP count licenses can be deactivated and moved between switches and controllers.

- To activate a license, you must reboot your switch after configuring the new license level. The AP-count license does not require a reboot to activate.
- An expired evaluation license can not be reactivated after reboot.
- Stack members of a switch stack must run the same license level. If the license level is different, the switch will not join the stack until it is changed and rebooted from the active switch of the stack.
- Licenses on mixed switch stacks are not supported.
- Adder AP-count licenses are installed in the factory.

Related Topics

[Activating an Image Based License, on page 5](#)

[Examples: Activating RTU Image Based Licenses, on page 11](#)

Information About Configuring RTU Licenses

Right-To-Use Licensing

Right-to-use (RTU) licensing allows you to order and activate a specific license type and level, and then to manage license usage on your switch. The types of licenses available to order by duration are:

- Permanent licenses—Purchased with a specific feature set with no expiration date.
- Evaluation licenses—Pre-installed on the switch and is valid for only a 90 day in-use period.

To activate a permanent or evaluation license, you are required to accept the End-User License Agreement (EULA).

A permanent license can be moved from one device to another. To activate a license, you must reboot your switch.

If you activate the evaluation license, it will expire in 90 days. An evaluation license is a manufacturing image on your switch and is not transferable to another switch. Once activated, this type of license cannot be deactivated until it expires. After your evaluation period expires, at the next reload your switch image will return to its default license and network operations are not impacted.

Related Topics

[Activating an Image Based License, on page 5](#)

[Examples: Activating RTU Image Based Licenses, on page 11](#)

Right-To-Use Image-Based Licenses

Right-to-use image licenses support a set of features based on a specific image-based license:

- LAN Base—Layer 2 features.
- IP Base—Layer 2 and Layer 3 features.

- IP Services—Layer 2, Layer 3, and IPv6 features. (Applicable only to switches and not controllers.)

Right-To-Use License States

After you configure a specific license type and level, you can manage your licenses by monitoring the license state.

Table 1: RTU License States

License State	Description
Active, In Use	EULA was accepted and the license is in use after device reboot.
Active, Not In Use	EULA was accepted and the switch is ready to use when the license is enabled.
Not Activated	EULA was not accepted.

Guidelines to follow when monitoring your image based license state:

- A purchased permanent license is set to *Active, In Use* state only after a switch reboot.
- If more than one license was purchased, a reboot will activate the license with the highest feature set. For instance, the IP Services license is activated and not the LAN Base license.
- Remaining licenses purchased after switch reboot, stay in **Active, Not In Use** state.



Note For the AP count license, to change the state to Active, In Use, you must first make sure that the evaluation AP count license is deactivated.

License Activation for Switch Stacks

Right-to-use licensing is supported on switch stacks. A switch is a set of up to nine stacking-capable switches connected through their StackWise-160 ports. One switch in the stack is identified as the active switch and the remaining switches are standby switches. The active switch is activated with an RTU license from its active console. The license level for the standby switches in the stack can be activated at the same time.



Note A switch stack cannot contain mixed license levels. Also, the switches must be of the same platform.

To change the license level, you do not need to disconnected the new added stack member if the stack cables are connected. Use the active switch console to set the new member's license level same as active switch and reboot the new member to join the stack.

Mobility Controller Mode

AP-count licenses are used only when the switch is in Mobility Controller mode. The MC is the gatekeeper for tracking the AP-count licenses and allows an access point to join or not.

Management of AP-count licenses is performed by the switch in mobility controller mode configurable through the CLI.

Related Topics

[Changing Mobility Mode, on page 9](#)

Right-To-Use AP-Count Licensing

Right-to-use licensing (RTU) allows you to order and activate a specific license type, and then to manage license usage on your switch.

You can order your switch with support for a specific number of adder access point count licenses, but the total number of licenses ordered should not exceed 25. You can also order your adder access point count licenses after receiving the switch.

For example, if you have ordered 25 new adder licenses, you can add only those ordered adder licenses to the switch. The licenses can be added in increments of 1, but the total number of licenses added for the switch should not exceed 25 .

You can configure your switch to manage the access point count licenses and view the number of access points currently in use from the CLI.

The following are two different types of access point licenses:

- 1 Permanent licenses for the access points
 - Adder access point count license—You can purchase the adder license to increase the switch capacity at a later time. You can transfer the adder access point count license from one switch to another.
- 2 Evaluation licenses for the access points
 - You can activate these licenses to evaluate more access points before purchasing the licenses.
 - The maximum number of access points that can be evaluated is 25 .
 - The evaluation period for using the access point licenses is 90 days.
 - You can activate and deactivate the evaluation licenses from the CLI.

Related Topics

[Activating an AP-Count License, on page 7](#)

[Obtaining an Upgrade or Capacity Adder License, on page 8](#)

[Rehosting a License, on page 8](#)

Right-to-Use AP-Count Evaluation Licenses

If you are considering upgrading to a license with a higher access point count, you can try an evaluation license before upgrading to a permanent version of the license. For example, if you are using a permanent license with a 10 access-point count and want to try an evaluation license with a 15-access-point count, you can try out the evaluation license for 90 days.

When an evaluation license is activated, the permanent AP-count licenses are ignored. The maximum supported licenses of 25 access points are available for 90 days.

To prevent disruptions in operation, the switch does not change licenses when an evaluation license expires. A warning expiry message is displayed daily starting five days prior to the expiry date. After 90 days, the evaluation license expires with a warning message. You must disable the evaluation license and then purchase the permanent license.

When the switch reboots after the evaluation license expiry, the license defaults to a permanent license.

Related Topics

[Activating an AP-Count License, on page 7](#)

[Obtaining an Upgrade or Capacity Adder License, on page 8](#)

[Rehosting a License, on page 8](#)

Right-To-Use Adder AP-Count Rehosting Licenses

Revoking a license from one device and installing it on another is called rehosting. You might want to rehost a license to change the purpose of a device.

To rehost a license, you must deactivate the adder ap-count license from one device and activate the same license on another device.

Evaluation licenses cannot be rehosted.

How to Configure RTU Licenses

Activating an Image Based License

SUMMARY STEPS

1. `license right-to-use activate`{ipbase | ipservices | lanbase} {all | evaluation all} [slot *slot-number*] [acceptEULA]
2. `reload` [*LINE* | at | cancel | in | slot *stack-member-number* | standby-cpu]
3. `show license right-to-use usage` [slot *slot-number*]

DETAILED STEPS

	Command or Action	Purpose																								
Step 1	<p>license right-to-use activate {ipbase ipservices lanbase} {all evaluation all} [slot slot-number] [acceptEULA]</p> <p>Example:</p> <pre>Switch# license right-to-use activate ipservices all acceptEULA</pre>	<p>Activates the license level. Activation can happen on all switches and also include the EULA acceptance.</p> <p>Note If you do not accept EULA, the modified configuration will not take effect after reload. The default license (or a license that was not deactivated) becomes active after reload.</p>																								
Step 2	<p>reload [LINE at cancel in slot stack-member-number standby-cpu]</p> <p>Example:</p> <pre>Switch# reload slot 1 Proceed with reload? [confirm] y</pre>	<p>Reloads a specific stack member to complete the activation process for the RTU adder AP-count license.</p> <p>Note The reminder to accept the EULA is displayed after reload if it was not accepted earlier.</p> <p>When changing license level, you are not required to save the configuration. But, it is a good practice to ensure all the configuration is stored properly before reload. Changing from a higher license level to a lower license level on reboot will remove CLIs that are not applicable. Ensure that all features in the lower license level that are actively used are not removed.</p>																								
Step 3	<p>show license right-to-use usage [slot slot-number]</p> <p>Example:</p> <pre>Switch# show license right-to-use usage</pre> <table border="1"> <thead> <tr> <th>Slot#</th> <th>License Name</th> <th>Type</th> <th>usage-duration(y:m:d)</th> <th>In-Use</th> <th>EULA</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>ipservices</td> <td>Permanent</td> <td>0 :10:27</td> <td>yes</td> <td>yes</td> </tr> <tr> <td>1</td> <td>ipservices</td> <td>Evaluation</td> <td>0 :0 :0</td> <td>no</td> <td>no</td> </tr> <tr> <td>1</td> <td>ibase</td> <td>Permanent</td> <td>0 :0 :9</td> <td>no</td> <td>yes</td> </tr> </tbody> </table>	Slot#	License Name	Type	usage-duration(y:m:d)	In-Use	EULA	1	ipservices	Permanent	0 :10:27	yes	yes	1	ipservices	Evaluation	0 :0 :0	no	no	1	ibase	Permanent	0 :0 :9	no	yes	<p>Displays detailed usage information.</p>
Slot#	License Name	Type	usage-duration(y:m:d)	In-Use	EULA																					
1	ipservices	Permanent	0 :10:27	yes	yes																					
1	ipservices	Evaluation	0 :0 :0	no	no																					
1	ibase	Permanent	0 :0 :9	no	yes																					

Command or Action	Purpose
<pre> 1 ipbase Evaluation 0 :0 :0 no no 1 lanbase Permanent 0 :11:12 no yes ----- Switch# </pre>	

Related Topics

- [Restrictions for Configuring RTU Licenses, on page 1](#)
- [Right-To-Use Licensing, on page 2](#)
- [Monitoring and Maintaining RTU Licenses, on page 11](#)
- [Examples: Activating RTU Image Based Licenses, on page 11](#)

Activating an AP-Count License

SUMMARY STEPS

1. `license right-to-use activate{apcount ap-number slot slot-num} | evaluation} [acceptEULA]`
2. `show license right-to-use usage [slot slot-number]`

DETAILED STEPS

	Command or Action	Purpose
Step 1	<p><code>license right-to-use activate{apcount <i>ap-number</i> slot <i>slot-num</i>} evaluation} [acceptEULA]</code></p> <p>Example: Switch# <code>license right to use activate apcount 5 slot 1 acceptEULA</code></p>	Activates one or more adder AP-count licenses and immediately accepts the EULA.
Step 2	<p><code>show license right-to-use usage [slot <i>slot-number</i>]</code></p> <p>Example: Switch# <code>show license right-to-use usage</code></p> <pre> Slot# License Name Type usage-duration(y:m:d) In-Use EULA ----- 1 ipservices permanent 0 :3 :29 yes yes 1 ipservices evaluation 0 :0 :0 no no 1 ipbase permanent 0 :0 :0 no no 1 ipbase evaluation 0 :0 :0 no no 1 lanbase permanent 0 :0 :0 no no 1 apcount evaluation 0 :3 :11 no no 1 apcount base 0 :0 :0 no yes </pre>	Displays detailed usage information.

	Command or Action	Purpose
1	apcount adder 0 :0 :17 yes yes	
	Switch#	

Related Topics

[Monitoring and Maintaining RTU Licenses, on page 11](#)

[Right-To-Use AP-Count Licensing, on page 4](#)

[Right-to-Use AP-Count Evaluation Licenses, on page 5](#)

Obtaining an Upgrade or Capacity Adder License

You can use the capacity adder licenses to increase the number of access points supported by the switch.

SUMMARY STEPS

1. `license right-to-use {activate | deactivate} apcount {ap-number | evaluation} slot slot-num [acceptEULA]`

DETAILED STEPS

	Command or Action	Purpose
Step 1	<code>license right-to-use {activate deactivate} apcount {ap-number evaluation} slot slot-num [acceptEULA]</code> Example: <code>Switch# license right to use activate apcount 5 slot 2 acceptEULA</code>	Activates one or more adder AP-count licenses and immediately accepts the EULA.

Related Topics

[Right-to-Use AP-Count Evaluation Licenses, on page 5](#)

[Right-To-Use AP-Count Licensing, on page 4](#)

Rehosting a License

To rehost a license, you have to deactivate the license from one switch and then activate the same license on another switch.

SUMMARY STEPS

1. `license right-to-use deactivate [license-level] apcount ap-number slot slot-num`
2. `license right-to-use activate [license-level] slot slot-num [acceptEULA]`

DETAILED STEPS

	Command or Action	Purpose
Step 1	<p><code>license right-to-use deactivate [license-level] apcount ap-number slot slot-num</code></p> <p>Example: Switch# <code>license right-to-use deactivate apcount 1 slot 1</code></p> <p>Example: Switch# <code>license right-to-use deactivate ipbase slot 1</code></p>	Deactivates the license on one switch. The "ipbase" license level is considered as the example here.
Step 2	<p><code>license right-to-use activate [license-level] slot slot-num [acceptEULA]</code></p> <p>Example: Switch# <code>license right to use activate ipbase slot 2 acceptEULA</code></p> <p>Example: Switch# <code>license right-to-use activate ipbase slot 2 acceptEULA</code></p>	Activates the license on another switch. The "ipbase" license level is considered as the example here.

Related Topics

[Right-To-Use AP-Count Licensing, on page 4](#)

[Right-to-Use AP-Count Evaluation Licenses, on page 5](#)

Changing Mobility Mode**SUMMARY STEPS**

1. `wireless mobility controller`
2. `write memory`
3. `reload [LINE | at | cancel | in | slot stack-member-number | standby-cpu]`
4. `no wireless mobility controller`
5. `write memory`
6. `reload [LINE | at | cancel | in | slot stack-member-number | standby-cpu]`

DETAILED STEPS

	Command or Action	Purpose
Step 1	<p>wireless mobility controller</p> <p>Example: Switch(config)# wireless mobility controller % Mobility role changed to Mobility Controller. Please save config and reboot the whole stack.</p>	Changes a switch in Mobility Agent mode to Mobility Controller mode.
Step 2	<p>write memory</p> <p>Example: Switch# write memory</p> <p>Building configuration... Compressed configuration from 13870 bytes to 5390 bytes[OK] Switch#</p>	
Step 3	<p>reload [<i>LINE</i> at cancel in slot <i>stack-member-number</i> standby-cpu]</p> <p>Example: Switch# reload slot 3 Proceed with reload? [confirm] y</p>	
Step 4	<p>no wireless mobility controller</p> <p>Example: Switch(config)# no wireless mobility controller % Mobility role changed to Mobility Agent. Please save config and reboot the whole stack. Switch(config)#</p>	Changes a switch in Mobility Controller mode to Mobility Agent mode.
Step 5	<p>write memory</p> <p>Example: Switch# write memory</p> <p>Building configuration... Compressed configuration from 13870 bytes to 5390 bytes[OK] Switch#</p>	
Step 6	<p>reload [<i>LINE</i> at cancel in slot <i>stack-member-number</i> standby-cpu]</p> <p>Example: Switch# reload slot 3 Proceed with reload? [confirm] y</p>	

Related Topics

[Mobility Controller Mode, on page 4](#)

Monitoring and Maintaining RTU Licenses

Command	Purpose
<code>show license right-to-use default</code>	Displays the default license information.
<code>show license right-to-use detail</code>	Displays detailed information of all the licenses in the switch stack.
<code>show license right-to-use eula {evaluation permanent}</code> <code>show license right-to-use eula {evaluation permanent}</code>	Displays the end user license agreement.
<code>show license right-to-use mismatch</code>	Displays the license information that does not match.
<code>show license right-to-use slot slot-number</code>	Displays the license information for a specific slot in a switch stack.
<code>show license right-to-use summary</code>	Displays a summary of the license information on the entire switch stack.
<code>show license right-to-use usage [slot slot-number]</code>	Displays detailed information about usage for all licenses in the switch stack.
<code>show switch</code>	Displays detailed information of every member in a switch stack including the state of the license.

Related Topics

[Activating an Image Based License, on page 5](#)

[Examples: Activating RTU Image Based Licenses, on page 11](#)

[Activating an AP-Count License, on page 7](#)

Configuration Examples for RTU Licensing

Examples: Activating RTU Image Based Licenses

This example shows how to activate an IP Services image license and accept the EULA for a specific slot:

```
Switch# license right-to-use activate ipservices slot 1 acceptEULA
```

```
% switch-1:stack-mgr:Reboot the switch to invoke the highest activated License level
```

This example shows how to activate a license for evaluation:

```
Switch# license right-to-use activate ipservices evaluation acceptEULA
% switch-1:stack-mgr:Reboot the switch to invoke the highest activated License level
```

Related Topics

[Activating an Image Based License, on page 5](#)

[Restrictions for Configuring RTU Licenses, on page 1](#)

[Right-To-Use Licensing, on page 2](#)

[Monitoring and Maintaining RTU Licenses, on page 11](#)

Examples: Displaying RTU Licensing Information

This example shows the consolidated RTU licensing information from the active switch on a switch stack. All of the members in the stack have the same license level.

```
Switch# show license right-to-use summary
```

License Name	Type	Period left
ipservices	Permanent	Lifetime

```
License Level In Use: ipservices
License Level on Reboot: ipbase
```

This example shows a summary of permanent and adder licenses. The evaluation AP-count license is disabled displaying the total number of activated adder AP-count licenses in the switch stack. AP-count licenses in-use mean that they are connected.

```
Switch# show license right-to-use summary
```

License Name	Type	Count	Period left
ipservices	permanent	N/A	Lifetime
apcount	base	0	
apcount	adder	25	Lifetime

```
License Level In Use: ipservices
License Level on Reboot: ipservices eval
Evaluation AP-Count: Disabled
Total AP Count Licenses: 25
AP Count Licenses In-use: 10
AP Count Licenses Remaining: 15
```

This example shows the RTU default licenses. Default licenses are pre-installed and cannot be removed or transferred. If no license is activated the switch uses the default license, after a reboot.

```
Switch# show license right-to-use default
```

Slot#	License Name	Type	Count
1	ipservices	permanent	N/A

1	apcount	base	0
1	apcount	adder	10
Slot#	License Name	Type	Count

2	ipservices	permanent	N/A
2	apcount	base	0
2	apcount	adder	10
Slot#	License Name	Type	Count

3	ipservices	permanent	N/A
3	apcount	base	0
3	apcount	adder	10

Example: Displaying RTU License Details

This example shows all the detailed information for the RTU licenses on slot 1:

```
Switch# show license right-to-use detail slot 1
Index 1
  License Name      : ipservices
  Period left       : Lifetime
  License Type      : Permanent
  License State     : Active, In use
  License Location  : Slot 1
Index 2
  License Name      : ipservices
  Period left       : 90
  License Type      : Evaluation
  License State     : Not Activated
  License Location  : Slot 1
Index 3
  License Name      : ipbase
  Period left       : Lifetime
  License Type      : Permanent
  License State     : Active, Not In use
  License Location  : Slot 1
Index 4
  License Name      : ipbase
  Period left       : 90
  License Type      : Evaluation
  License State     : Not Activated
  License Location  : Slot 1
Index 5
  License Name      : lanbase
  Period left       : Lifetime
  License Type      : Permanent
  License State     : Active, Not In use
  License Location  : Slot 1
```

Example: Displaying RTU License Mismatch

This example shows the license information of the switches in a stack and a mismatch state of a member switch. The member must match the active.

```
Switch# show switch
```

Example: Displaying RTU Licensing Usage

```
Switch/Stack Mac Address : 1c1d.8625.7700 - Local Mac Address
Switch#  Role      Mac Address      Priority  H/W  Current State
-----  -
*1      Active  1c1d.8625.7700  15      V02  Ready
2       Standby bc16.f55c.ab80  7       V04  Ready
3       Member  580a.2095.da00  1       V03  Lic-Mismatch
```

**Note**

To resolve the license mismatch, first check the RTU license summary:

```
Switch# show license right-to-use
```

Then change the license level of the mismatched switched so that it is the same license level of the active switch. This example shows that the IP Base license was activated for the member switch to match the active switch.

```
Switch# license right-to-use activate ipbase slot 3 acceptEULA
```

Example: Displaying RTU Licensing Usage

This example shows the detailed licensing usage on your switch stack. The IP Services license in Slot 1 is permanent and usage is one day. An AP-count license in Slot 2 is ready for evaluation. EULA was accepted and state shows in use, but after reboot the evaluation license will be deactivated.

```
Switch# show license right-to-use usage
```

```
Slot#  License Name      Type      usage-duration(y:m:d)  In-Use  EULA
-----  -
1       ipservices           Permanent  0 :10:27              yes     yes
1       ipservices           Evaluation 0 :0 :0               no      no
1       ipbase               Permanent 0 :0 :9               no      yes
1       ipbase               Evaluation 0 :0 :0               no      no
1       lanbase              Permanent 0 :11:12              no      yes
-----  -
Slot#    License Name      Type      usage-duration(y:m:d)  In-Use  EULA
-----  -
2       ipservices           Permanent 0 :3 :25              yes     yes
2       ipservices           Evaluation 0 :0 :0               no      no
2       ipbase               Permanent 0 :0 :0               no      yes
2       ipbase               Evaluation 0 :0 :0               no      no
2       lanbase              Permanent 0 :7 :2               no      yes
-----  -
Slot#    License Name      Type      usage-duration(y:m:d)  In-Use  EULA
-----  -
3       ipservices           Permanent 0 :6 :15              yes     yes
3       ipservices           Evaluation 0 :0 :0               no      no
3       ipbase               Permanent 0 :0 :0               no      yes
3       ipbase               Evaluation 0 :0 :0               no      no
3       lanbase              Permanent 0 :8 :11              no      yes
-----  -
```

Additional References for RTU Licensing

Related Documents

Related Topic	Document Title
RTU commands	<i>System Management Command Reference (Catalyst 3650 Switches)</i>
RTU AP image preload feature	<i>System Management Configuration Guide (Cisco WLC 5700 Series)</i>

Standards and RFCs

Standard/RFC	Title
None	—

MIBs

MIB	MIBs Link
Object ciscoLicenseMIB OID 1.3.6.1.4.1.9.9.359 MIB CISCO-LICENSE-MIB ; - View Supporting Images	To locate and download MIBs for selected platforms, Cisco IOS releases, and feature sets, use Cisco MIB Locator found at the following URL: http://www.cisco.com/go/mibs

Technical Assistance

Description	Link
<p>The Cisco Support website provides extensive online resources, including documentation and tools for troubleshooting and resolving technical issues with Cisco products and technologies.</p> <p>To receive security and technical information about your products, you can subscribe to various services, such as the Product Alert Tool (accessed from Field Notices), the Cisco Technical Services Newsletter, and Really Simple Syndication (RSS) Feeds.</p> <p>Access to most tools on the Cisco Support website requires a Cisco.com user ID and password.</p>	http://www.cisco.com/support

Feature History and Information for RTU Licensing

Release	Feature Information
Cisco IOS XE 3.3SE	This feature was introduced.